

CLAIMS

What is claimed is:

1 1. A low-noise block (LNB) control device capable of controlling modulation of an
2 alternating waveform on a direct current (DC) voltage from a DC power supply to an LNB
3 amplifier, said LNB control device comprising:

4 an LNB signalling module for providing a switch control signal and a
5 modulating waveform; and

6 a switch circuit for selectively sending said modulating waveform to a
7 summing circuit external to said LNB control device according to said switch
8 control signal, wherein said summing circuit adds said modulating waveform to said
9 DC voltage.

1 2. The LNB control device of Claim 1, wherein said LNB control device further
2 includes a power supply control module for receiving a power supply feedback signal from
3 said DC power supply, and for sending a control signal to said DC power supply in
4 response to said received power supply feedback signal.

1 3. The LNB control device of Claim 1, wherein said LNB control device further
2 includes a high impedance resistor.

1 4. The LNB control device of Claim 1, wherein said LNB control device further
2 includes a modulating voltage source and an offset voltage source.

1 5. The LNB control device of Claim 1, wherein said switch circuit includes at least one
2 transistor.

1 6. The LNB control device of Claim 1, wherein said summing circuit includes a
2 resistor, a capacitor and a transistor.

1 7. The LNB control device of Claim 6, wherein said transistor is a darlington NPN
2 transistor.

1 8. The LNB control device of Claim 1, wherein said LNB control device is further
2 coupled to a filter.

1 9. The LNB control device of Claim 8, wherein said filter includes an inductor and
2 resistor.

1 10. The LNB control device of Claim 9, wherein said filter includes a capacitor.

1 11. A satellite receiver comprising:

2 a DC power supply for providing a DC signal;

3 a filter circuit, coupled to said DC power supply, for filtering said DC
4 signal;

5 a low-noise block (LNB) control device, coupled to said DC power supply,
6 for providing a power supply control signal to and receiving a power supply
7 feedback signal from said DC power supply, and for generating a modulating signal;
8 and

9 a summing circuit, coupled to said LNB control device, for adding said
10 modulating signal to said DC signal.

1 12. The satellite receiver of Claim 11, wherein said filter circuit includes an inductor
2 and a resistor.

1 13. The satellite receiver of Claim 11, wherein said filter circuit includes a capacitor.

1 14. The satellite receiver of Claim 11, wherein said LNB control device further includes

2 a power supply control module for receiving said power supply feedback
3 signal from said DC power supply, and for sending said power supply control signal
4 to said DC power supply in response to said received power supply feedback signal;

5 an LNB signalling module for providing a switch control signal and said
6 modulating waveform; and

7 a switch circuit for selectively sending said modulating waveform to said
8 summing circuit according to said switch control signal.

1 15. The satellite receiver of Claim 14, wherein said switch circuit includes at least one
2 transistor.

1 16. The satellite receiver of Claim 14, wherein said LNB control device further includes
2 a high impedance resistor.

1 17. The satellite receiver of Claim 14, wherein said LNB control device further includes
2 a modulating voltage source and an offset voltage source.

1 18. The satellite receiver of Claim 11, wherein said summing circuit includes a resistor,
2 a capacitor and a transistor.

1 19. The satellite receiver of Claim 18, wherein said transistor is a darlington NPN
2 transistor.